

WHAT IS CLAIMED IS:

1. A method of replacing a blind flange manhole cover including a bolted-on blind flange that is mounted upon a bolting flange of a negative pressure storage tank manway with a manhole cover having a hinged door assembly, comprising the steps of:

- 5 a) removing the blind flange manhole cover from the bolting flange of a tank-installed manway containing a first opening for providing access to the interior of a tank; and
- b) attaching a manhole cover including a hinged door assembly to the bolting flange of an existing manway.

10 2. A method as in claim 1, wherein:

- a) a seal is provided for creating a leak proof joint between the cover and a cover receiving surface when the cover is in a closed position.

15 3. A method as in claim 1, wherein:

- a) a gasket is mounted between the bolting flange and a mounting flange.

4. A method as in claim 1, wherein:

- a) the mounting flange is bolted to the bolting flange.

5. A method as in claim 1, wherein:

- a) the mounting flange is welded to the bolting flange.

6. A method of converting a blind flange manhole cover on a manway of a storage tank to a hinged door manhole cover, comprising the steps of:

5 a) removing the blind flange manhole cover from the manway of the storage tank; and

 b) hingedly attaching the hinged door manhole cover to the manway of the storage tank.

7. A method as in claim 6, wherein:

10 a) the hinged door manhole cover is bolted to the manway.

8. A method as in claim 7, wherein:

 a) the blind flange manhole is unbolted from the manway.

15 9. A method as in claim 6, wherein:

 a) the hinged door manhole cover is welded to the manway.

10. A method as in claim 6, wherein:

a) the blind flange manhole cover is bolted to a flange surrounding the manway;

b) the step of removing the blind flange manhole cover includes unbolting the blind flange manhole cover from the flange; and

c) the step of attaching the hinged door manhole cover includes bolting a portion of the hinged door manhole cover to the flange.

11. A method as in claim 10, wherein:

10 a) the hinged door manhole cover is an outwardly opening manhole cover.

12. A method as in claim 1, wherein:

a) the hinged door manhole cover is an outwardly opening manhole cover.

15 13. A method as in claim 6, wherein:

a) a seal is provided on the manway; and

b) a groove is provided in the seal, the groove being configured for receiving a rim of the cover.

14. A method as in claim 1, wherein:

- a) a seal is provided on the manway; and
- b) a groove is provided in the seal, the groove being configured for receiving a rim of the cover.

15. A method as in claim 6, wherein:

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- a) a pin is provided between the manhole cover including the hinged door and the manway, the pin being disposable for securing the cover to the manway.

16. A method as in claim 15, wherein:

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- a) a seal is provided on the manway;
 - b) a locking assembly is provided adjacent the cover; and
 - c) the locking assembly includes a locking and sealing element for engaging the cover with the seal for locking and sealing the manway.

15 17. A method as in claim 16, wherein:

- a) the hinged door manhole cover includes a hinge frame assembly; and
- b) the locking assembly includes a threaded locking post, the threaded locking post being movable relative to the hinge

frame assembly and the cover for locking and sealing the cover with the seal.

18. A method as in claim 17, wherein:

a) the locking assembly includes a locking post base disposed adjacent the threaded locking post, and the locking post base is fixed relative to the cover.

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19. A manhole having an openable and closable manhole cover, comprising:

a) a manway defining the manhole;
b) the manhole cover being hingedly attached to the
10 manway;
c) the manhole cover including a hinge frame assembly;
d) a seal provided on the manway;
e) a pin provided for securing the manhole cover to the
manway;

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f) a locking and sealing assembly being provided adjacent to the cover; and
g) the locking assembly including a locking and sealing element for engaging the cover with the seal for locking and sealing the manway.

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20. A manhole having a cover as in claim 19, wherein:

a) the locking and sealing element includes a threaded locking post, the threaded locking post being moveable relative to the hinge frame assembly and the cover for locking and sealing the cover with the seal.

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21. A manhole having a cover as in claim 19, wherein:

a) a groove is provided in the seal, the groove being configured for receiving a rim of the manhole cover.

22. A manhole having a cover as in claim 21, wherein:

a) the pin is provided between the hinge frame assembly and the manway, and the pin secures the hinge frame assembly to the manway.

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23. A method of replacing a blind flange manhole cover including a bolted-on blind flange that is mounted upon a bolting flange of a storage tank manway with a manhole cover having a hinged door assembly, comprising the steps of:

a) removing the blind flange manhole cover from the bolting flange of a tank-installed manway containing a first opening for providing access to the interior of a tank; and

b) attaching a manhole cover including a hinged door assembly to the bolting flange of an existing manway.

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24. A method as in claim 23, wherein:

a) a seal is provided for creating a leak proof joint between the cover and a cover receiving surface when the cover is in a closed position.

25. A method as in claim 23, wherein:

5 a) a gasket is mounted between the bolting flange and a mounting flange.

26. A method as in claim 23, wherein:

a) the mounting flange is bolted to the bolting flange.